

LISTING OF CLAIMS:

Claim 1 (original): A camera assembly of a printing press comprising:
a housing;
an image sensor positioned within said housing and adapted to acquire images of a moving substrate of a printing press;
a light source positioned within said housing;
an optics assembly positioned within said housing;
a microprocessor positioned within said housing; and
image processing hardware positioned within said housing and adapted to analyze the acquired images of the substrate.

Claim 2 (original): The camera assembly of claim 1 wherein said image sensor is a CCD scanner.

Claim 3 (original): The camera assembly of claim 1 wherein said image sensor is an area scanner.

Claim 4 (original): The camera assembly of claim 1 wherein said light source is a strobe type light.

Claim 5 (original): The camera assembly of claim 1 wherein said optics assembly include a lens.

Claim 6 (original): The camera assembly of claim 5 wherein said optics assembly includes at least one mirror.

Claim 7 (original): The camera assembly of claim 1 wherein said image processing hardware includes at least one FPGA.

Claim 8 (original): The camera assembly of claim 1 and further including a power supply.

Claim 9 (original): The camera assembly of claim 1 and further including a communication interface.

Claim 10 (original): A camera assembly for use in scanning a paper substrate of a printing press, acquiring an image and processing the image, said assembly comprising:
a housing;
a camera positioned within said housing; and
image processing hardware positioned within said housing and including at least one FPGA.

Claim 11 (original): A camera assembly for use in scanning a paper substrate of a printing press, acquiring an image and processing the image, said assembly comprising:
a housing;
a camera positioned within said housing;
a light source positioned within said housing;
a microprocessor; and
image processing hardware positioned within said housing.

Claim 12 (original): A camera assembly for use in scanning a paper substrate of a printing press, acquiring an image and processing the image, said assembly comprising:
a housing;
a scanner positioned within said housing;
a light source positioned within said housing;
image processing hardware positioned within said housing and including an FPGA; and
a digital communication interface positioned within said housing.

Claim 13 (original): A camera assembly for use in scanning a paper substrate of a printing press, acquiring an image and processing the image, said assembly comprising:

- a housing;
- a CCD area scanner positioned within said housing;
- a strobe light source positioned within said housing;
- a microprocessor within said housing; and
- image processing hardware positioned within said housing, wherein said image processing hardware includes at least one FPGA.

Claim 14 (original): A camera assembly for use in scanning a paper substrate of a printing press and determining color register error, said assembly comprising:

- a housing;
- a camera positioned within said housing for acquiring images of the substrate;
- a light source positioned within said housing;
- an optics assembly positioned within said housing; and
- image processing hardware positioned within said housing for processing the acquired images and determining any color register error.

Claim 15 (original): A camera assembly for use in scanning a paper substrate of a printing press, acquiring an image and processing the image, said assembly comprising:

- a housing;
- a scanner positioned within said housing; and
- image processing components positioned within said housing wherein said components includes a microprocessor and an FPGA.

Claim 16 (previously presented): A method of determining color register error on a printing press, said method comprising:

- providing a camera enclosure having mounted therein a scanner and image processing hardware for acquiring an image of a paper substrate of a printing press;
- processing the image with the image processing hardware to determine any color register error; and
- transferring the color register error information externally of the camera assembly.

Claim 17 (original): A method of determining color register error of a printing press, said method comprising:

- scanning a paper substrate at a desired location with a camera assembly having mounted, within a housing, a scanner and image processing hardware to obtain an image;
- processing the image with the image processing hardware to determine a color register error; and
- transferring the error information externally of the camera assembly to effect color registration of the printing press.

Claim 18 (original): A camera assembly for use in scanning a paper substrate of a printing press, obtaining an image, and processing the image all within the assembly, the printing press having a sideframe and the paper substrate have an extremity, said assembly comprising:

- a housing dimensioned so that said housing is mountable at the extremity of the paper substrate without interference from the sideframe of the printing press;
- a camera positioned within said housing;
- a light source positioned within said housing;
- an optics assembly positioned within said housing; and
- image processing hardware positioned within said housing.

Claim 19 (original): The camera assembly of claim 18 wherein said housing has a width dimension of no more than four inches.

Claim 20 (original): The camera assembly of claim 18 wherein said housing includes at least one rib to dissipate heat.